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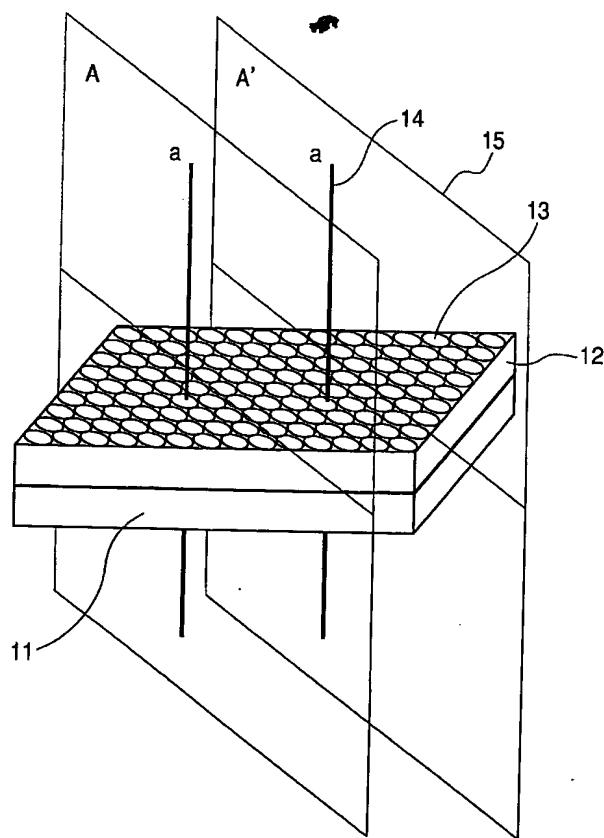
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(54) Title: MESOSTRUCTURED FILM, MESPOROUS MATERIAL FILM, AND PRODUCTION METHODS FOR THE SAME



(57) Abstract: A mesostructured film is provided having a structure in which surfactant molecular assemblies are regularly arranged three-dimensionally. A polymer compound thin film is formed on the substrate surface through spin coating or the like, and a rotating roller wrapped with a cloth is pressed against the polymer film for rubbing in one direction. The polymer material includes polyimide, polyamide, and polystyrene. The substrate includes a silica glass substrate and a silicon substrate. The mesostructured film can be formed by retaining the substrate in an aqueous solution containing a surfactant, silicon alkoxide, and acid. After being retained in the solution, the substrate is heated at about 60 to 120°C for several hours to several days for reaction. The surfactant includes C<sub>18</sub>H<sub>37</sub> (OCH<sub>2</sub>CH<sub>2</sub>)<sub>20</sub>OH and C<sub>16</sub>H<sub>33</sub> (OCH<sub>2</sub>CH<sub>2</sub>)<sub>20</sub>OH. The alkoxide included tetraethoxysilane, tetramethoxysilane, and tetrapropoxysilane. Hydrochloric acid, nitric acid, or sulfuric acid is used as a catalyst.



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